

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions,
and listings of claims in the application:

LISTING OF CLAIMS:

1-19. (cancelled)

20. (currently amended) A method for reacting CO and H₂, comprising:

converting CO from a feed on one side of a membrane in the presence of water to CO₂ and H₂O on said one side of said membrane, H₂ passing through said one side of membrane to the other side of said membrane;

feeding oxygen to said other side of said membrane; and said hydrogen being combusted on said other side with said oxygen fed to said other side and being discharged from said other side,

wherein the feed to the one side of the membrane comprises anode off-gas from a fuel cell, and the discharge from said other side of said membrane is fed to said fuel cell.

21. (previously presented) The method according to Claim 20, wherein said oxygen is from a cathode off-gas from an upstream fuel cell which comprises said oxygen.

22. (previously presented) The method according to Claim 20, wherein non-combusted oxygen is fed to a cathode of a downstream fuel cell.

23. (previously presented) The method according to Claim 20, wherein said oxygen is from air.

24. (previously presented) The method according to Claim 20, wherein water is separated off from the off-gas originating from said one side of said membrane.

25. (previously presented) The method according to Claim 20, wherein the heat from the off-gas from at least one of the sides of said membrane is recovered.

26. (cancelled)

27. (previously presented) The method according to Claim 20, wherein gas containing water originating from the other side of said membrane is fed to a further step of converting CO on one side of a further membrane in the presence of water to give CO₂ and H₂O on the one side of said further membrane, and H₂

passing through said further membrane to the other side of said further membrane.

28. (previously presented) The method according to Claim 27, wherein a separate oxygen-containing stream is fed to the inlet of said one side of said further membrane.

29. (withdrawn) System comprising an SOFC fuel cell and a device for reacting CO and H₂, comprising a hydrogen-permeable membrane (8) bounded on either side by, respectively, a first and a second chamber, wherein said first chamber is provided with feed means for CO and H₂ and with discharge means for CO₂ and H₂O and said second chamber is constructed as a combustion chamber and is provided with oxygen feed means and water discharge means, wherein the anode outlet of said SOFC is connected to said first chamber.

30. (withdrawn) System according to Claim 29, wherein the cathode outlet of said SOFC is connected to said second chamber.

31. (withdrawn) System according to Claim 29, wherein the cathode inlet is connected to said second chamber.

32. (withdrawn) System according to Claim 29, wherein the outlet of said first chamber is provided with water removal means.

33. (withdrawn) System according to Claim 29, wherein the outlet of said second chamber is connected to the expander of a gas turbine.

34. (withdrawn) System according to Claim 33, wherein the gas fed to the second chamber of said membrane is fed through a compressor of said turbine.

35. (withdrawn) System according to Claim 29, wherein the outlet of said turbine is connected to the cathode inlet of a further SOFC.

36. (withdrawn) System according to Claim 35, wherein said further SOFC is connected to a system comprising an SOFC fuel cell and a device for reacting CO and H₂, comprising a hydrogen-permeable membrane (8) bounded on either side by, respectively, a first and a second chamber, wherein said first chamber is provided with feed means for CO and H₂ and with discharge means for CO₂ and H₂O and said second chamber is constructed as a combustion chamber and is provided with oxygen

feed means and water discharge means, wherein the anode outlet of said SOFC is connected to said first chamber.

37. (withdrawn) System according to Claim 29, comprising a further device for reacting CO and H₂, comprising a hydrogen-permeable membrane delimited on either side by, respectively, a first and second chamber, wherein said first chamber is provided with feed means for CO and H₂ and is provided with discharge means for CO₂ and H₂O and said second chamber is constructed as a combustion chamber and provided with a feed connected to the discharge from the second chamber of said device for reacting CO and H₂.

38. (withdrawn) System according to Claim 37, wherein said second chamber is provided with separate oxygen feed means.

39. (previously presented) The method according to Claim 21, wherein said cathode off-gas comprises air.